

PROGRESS REPORT
For
VERSATILE, HIGH PRECISION STEREO
POINT TRANSFER DEVICE

Period Covered: December 1965
Dated: 17 January 1966
Job No.: #552, #552A
Document No.: OD-276

DDR-DUPE

PROGRESS REPORT
For
VERSATILE, HIGH PRECISION STEREO
POINT TRANSFER DEVICE

Progress Report 552 & 552A for December 1965

This month's work has been centered in studying, re-designing, and reworking the laser optics and fabrication components for Encoder and installation in the Point Transfer Device. Stereo Viewer #552A, Serial No. 102, was delivered and installed early in December.

OBJECTIVE ASSEMBLIES

The problems of image color and marking size is the effort here. To improve image color the present dichroic beam splitter is being reworked with neutral coating of near 50%-50% reflection and transmission properties. Although this approach will reduce visual and laser image brightness by 30%, color balance of visual image will be most effectively preserved. To compensate for laser optical path losses mark image size will be reduced 30%. The motions to change laser wavelength had several unknowns in image color and marking effects bringing further delays to equipment delivery. Some delay is expected because of problems in reworking beamsplitter and optics.

A companion motion here is to correct the optical set-up determining the mark size and image quality at the film plane. The near 1:1 magnification lens formerly used had physical interference that made sharp focusing the laser reticle impossible when visual optics were focused on the film. When image was

focused by the lens in its other conjugate position image size increased significantly to about 5/32 diameter, making laser marking very unreliable with current laser output. By lengthening the relay lens focal length proper mark size is obtained, but reticle position had to be shifted by approximately 3 inches.

A part of the relay lens focal length change is the re-design of the prismatic lens and the optics at the laser. Since the ray geometry has been substantially altered new lenses are required. To minimize delay of the system debugging, plastic lenses will be temporarily used while their glass counterparts are being made.

The main plate will be modified and optics reassembled during the next reporting period. Sample of film marks will be forwarded during that period for inspection.

ENCODER - COUNTER SUBSYSTEM

All preliminary work of design, material ordering has been completed. Fabrication of switch/connector coupler and the small sloped front cabinet with associated mounting hardware should be completed early in next reporting period. Delivery of [] cabinets is seriously delayed with delivery in late February or March. To overcome this upset, present cabinet will be substituted and delivered with system, if necessary.

STAT

Wiring is being delayed because of noise tests [] [] has recommended we make to prevent counting errors. Although recommended shielded wire is being used, we want to be certain the long lengths required will not require mounting the 15EL44 models next to the encoders.

STAT

STAT

WORK FOR NEXT REPORTING PERIOD

- 1) Continue debugging 552, Serial 101.

Enclosures

- 1) CD-143 and CD-144
- 2) Financial Statement

6 December 1965
552 - CD-144
WWB:rf

CUSTOMER REVIEW

DATE: 3 December 1965

ATTENDEES: ED, WM, RB

552A # 222

Purpose of this visit was to recheck system with corrections and to introduce RB to system. Except for image rotation, left channel jammed, and was later satisfactorily repaired.

6 December 1965

552 - CD-143

WWB:rf

CUSTOMER REVIEW

DATE: 2 December 1965

ATTENDEES: ED, WM

The following were customer comments during the plant acceptance. 552A # 102.

1) Left - Y counter drops counts at lower speed ranges (check rotopulse action, magnetism of cover).

2) Loop forming rollers jam upon return up vertical flight (slip 1 tooth of coupling gears. May require resetting switch).

3) Vacuum holddown OK but has leak outer left. Stated new manifolds and platens are to be installed on machine at delivery.

4) Spool brakes appear to lag.

5) Eyelenses do not accommodate a very near sighted person (a step on eyelens barrel prevents this adjustment).

6) Obstacle appears in right upper field - 11 o'clock
Obstacle appears in left upper field - 1 o'clock

7) Correct penta mirror alignment, dot superimposed, and lens centering.

8) Correct runout (2) rollers left side.

9) Customer sees no problem that would prevent delivery 7 December 1965.

All of the above were corrected the evening of 2 December 1965.